Methods: Third generation cephalosporins were removed from the formulary.They were only allowed to be prescribed following advice of the Microbiologists. A red alert action plan was put in place to reduce antimicrobial usage in general and particularly cefuroxime and broad-spectrum antimicrobials. To this effect the antimicrobial policy was reviewed and the following methodology was implemented with the aim of reducing intravenous antimicrobials and encouragement of the use of oral antimicrobials:

1. Daily lists of all patients on antimicrobials in the Elderly wards were faxed to the Microbiology Department.
2. The Medical Microbiologists then contacted the relevant clinicians to discuss antimicrobial treatment with the aim of rationalizing antimicrobial therapy to reduce and control *C. difficile* infections.

Results: As a result of this intervention the outcome has been the following:

1. Reduction in the use of antimicrobials.
2. Reduction in the duration of antimicrobial treatment.
3. More conversion of intravenous therapy to oral therapy.
4. Discontinuation of ceftriaxone and third generation cephalosporins.
5. Reduction in the incidence of *C. difficile* infections in Elderly patients by more than 45%.
6. Better clinical management of patients and on-going education of junior doctors.

Conclusion: The daily communication of patients who are on antimicrobials to the Microbiologists and their active intervention has led to the reduction in antimicrobial usage, more rational use of antimicrobials,more switch from intravenous to oral therapy, reduction of *C.difficile* diarrhoea and better clinical management of patients.

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Journey of Infection Control in a Tertiary Care Hospital

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Background: Hospital programmes of infection control should include surveillance to detect healthcare associated infections (HAI), to reduce the incidence and thus to reduce the associated morbidity, mortality, and costs. With this aim in mind, Wockhardt Hospitals, Bangalore, India started its surveillance programme for four healthcare associated infections such as surgical site infection (SSI), blood stream infection (BSI), urinary tract infection (UTI) and ventilator associated pneumonia (VAP), analyzed and monitored the trend, compared it with sister hospital and took interventions as and when required.

Methods: An active on-going systematic surveillance is done by analysis of laboratory reports of culture and sensitivity, regular visits to patient care areas by the infection control team and clinical monitoring of all hospitalized high in the month of June and July 2007. SSI rate was 3.3%, UTI rate was 15/1000 catheter days, VAP was 17/1000 ventilator days in the month of June and BSI rate was 19/1000 indwelling catheter days in July. Interventions like regular and specialized training of infection control protocols, isolation of infected patients, barrier nursing, environmental cleaning, upgrading the hand wash stations, implementing alcohol hand rub in each patient bedside, monitoring of adherence to hand hygiene practices, VAP bundle etc were taken immediately and the rates were brought down over a period of 8 months

Results: HAI rates were brought down to 0.2% for SSI, 4.2/1000 catheter days for UTI, 2.2/1000 ventilator days for VAP and 1.6/1000 indwelling catheter days for BSI in the month of January 2008.

Conclusion: The surveillance results are fed back regularly to the clinical staff and the management to prioritize the plan of action to bring down the rates to as minimum as possible.

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Impact of Ventilation System Design on Airborne Infectious Disease Control in an Emergency Room

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In healthcare settings, air distribution systems play a vital role in providing and maintaining indoor air quality that is safe for patients, staff, and visitors. Emergency rooms contain multiple patients who share the same setting and are in close proximity to each other making them more susceptible to other illnesses caused by the transmission of airborne contaminants. It is therefore necessary to provide an indoor environment that is designed to minimize the spread of airborne contaminants from patient to patient and patient to staff. One means of addressing this issue is through the proper selection and design of air distribution systems.

This study examined the influence of air distribution systems (overhead and displacement) and return and supply grille locations on ventilation effectiveness and contaminant distribution control of a typical North American emergency room. Emphasis was placed on the isolation and removal of air in the immediate vicinity of the patient to minimize the possible spread of airborne infections in the multi-patient environment.

The study employed numerical simulations using computational fluid dynamics (CFD) to investigate the airborne contaminant control performance of the air distribution system designs. CFD provided a means to analyze the ventilation performance of the emergency room through both numerical and visual results. Contaminant distribution was modeled with the patient's mouth serving as the source. Local air quality index (LAQI) was used to measure the effectiveness of contaminant removal. Local mean age of air (LMA) was used to analyze the general ventilation performance of the emergency room. Analyses of the data showed